

Table 1. (continued)	
1.0	0.0000
1.1	0.0000
1.2	0.0000
1.3	0.0000
1.4	0.0000
1.5	0.0000
1.6	0.0000
1.7	0.0000
1.8	0.0000
1.9	0.0000
2.0	0.0000
2.1	0.0000
2.2	0.0000
2.3	0.0000
2.4	0.0000
2.5	0.0000
2.6	0.0000
2.7	0.0000
2.8	0.0000
2.9	0.0000
3.0	0.0000
3.1	0.0000
3.2	0.0000
3.3	0.0000
3.4	0.0000
3.5	0.0000
3.6	0.0000
3.7	0.0000
3.8	0.0000
3.9	0.0000
4.0	0.0000
4.1	0.0000
4.2	0.0000
4.3	0.0000
4.4	0.0000
4.5	0.0000
4.6	0.0000
4.7	0.0000
4.8	0.0000
4.9	0.0000
5.0	0.0000
5.1	0.0000
5.2	0.0000
5.3	0.0000
5.4	0.0000
5.5	0.0000
5.6	0.0000
5.7	0.0000
5.8	0.0000
5.9	0.0000
6.0	0.0000
6.1	0.0000
6.2	0.0000
6.3	0.0000
6.4	0.0000
6.5	0.0000
6.6	0.0000
6.7	0.0000
6.8	0.0000
6.9	0.0000
7.0	0.0000
7.1	0.0000
7.2	0.0000
7.3	0.0000
7.4	0.0000
7.5	0.0000
7.6	0.0000
7.7	0.0000
7.8	0.0000
7.9	0.0000
8.0	0.0000
8.1	0.0000
8.2	0.0000
8.3	0.0000
8.4	0.0000
8.5	0.0000
8.6	0.0000
8.7	0.0000
8.8	0.0000
8.9	0.0000
9.0	0.0000
9.1	0.0000
9.2	0.0000
9.3	0.0000
9.4	0.0000
9.5	0.0000
9.6	0.0000
9.7	0.0000
9.8	0.0000
9.9	0.0000
10.0	0.0000

In re Application of

Serial No.: New Application

Filed: May 30, 2001

For: MOTION VECTOR DETECTION APPARATUS

PRELIMINARY AMENDMENT

Commissioner for Patents  
Washington, D.C. 20231

Sir:

Prior to examination of the above-identified application,  
please enter the following specification changes as noted below:

IN THE CLAIMS:

Please amend claims 8-10, 13, 14, 16, 22, 30-32, 36, and 42 as follows:

8. (Amended) A motion vector detection apparatus as defined in Claim 1, wherein said motion vector detector is an integer precision motion vector detector that detects an integer precision motion vector from the data outputted from the first storage unit and the data outputted from the second storage unit.

9. (Amended) A motion vector detection apparatus as defined in Claim 1, wherein said motion vector detector comprises:

an interpolation pixel generator for receiving the data outputted from the first storage unit, and generating decimal precision pixel data; and

a decimal precision motion vector detector for detecting a decimal precision motion vector from the data outputted from the interpolation pixel generator and the data outputted from the second storage unit.

10. (Amended) A motion vector detection apparatus as defined in Claim 1, wherein said motion vector detector comprises:

an integer precision motion vector detector that detects an integer precision motion vector from the data outputted from the first storage unit and the data outputted from the second storage unit;

an interpolation pixel generator for receiving the data outputted from the first storage unit, and generating decimal precision pixel data; and

a decimal precision motion vector detector for detecting a decimal precision motion vector from the data outputted from the interpolation pixel generator and the data outputted from the second storage unit.

13. (Amended) A motion vector detection apparatus as defined in Claim 11, wherein said interpolation pixel generator comprises:

a shift register unit comprising at least two shift registers; and

an interpolation unit performing interpolation using pixel data stored in the shift register unit.



interpolation pixel generator and the data outputted from the second storage unit.

30. (Amended) A motion vector detection method as defined in Claim 23, wherein said motion vector detection step is an integer precision motion vector detection step of detecting an integer precision motion vector by using the reference area data and the target block data.

31. (Amended) A motion vector detection method as defined in Claim 23, wherein said motion vector detection step comprises:

an interpolation pixel generation step of receiving the pixel data constituting the reference area data, and generating decimal precision pixel data; and

a decimal precision motion vector detection step of detecting a decimal precision motion vector, using the data outputted from the interpolation pixel generation step, and the target block data.

32. (Amended) A motion vector detection method as defined in Claim 23, wherein said motion vector detection step comprises:

an integer precision motion vector detection step of detecting an integer precision motion vector, using the reference area data and the target block data;

an interpolation pixel generation step of receiving the pixel data constituting the reference area data, and generating decimal precision pixel data; and

a decimal precision motion vector detection step of detecting a decimal precision motion vector, using the data outputted from the interpolation pixel generation step, and the target block data.

36. (Amended) A motion vector detection method as defined in Claim 33 further comprising an integer precision motion vector detection step of detecting an integer precision motion vector, using the reference area data and the target block data.

42. (Amended) A motion vector detection method as defined in Claim 40 further comprising:

an interpolation pixel generation step of receiving the pixel data constituting the reference area data, and generating decimal precision pixel data; and

a decimal precision motion vector detection step of detecting a decimal precision motion vector, using the data outputted from the interpolation pixel generation step, and the target block data.

REMARKS

Claims 1-42 remain pending herein. Claims 8-10, 13, 14, 16, 22, 30-32, 36, and 42 have been amended hereby.

This Preliminary Amendment is submitted to eliminate multiply dependent claims from the above-identified application.

[illegible]

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Rosch Warent

Roger W. Parkhurst

RWP/mhs

Attachment: Claim Mark-ups

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CLAIM MARK-UPS FOR  
NEW APPLICATION FILED MAY 30, 2001  
ENTITLED "MOTION VECTOR DETECTION APPARATUS"  
ATTORNEY DOCKET NO.: HYAE:118

8. (Amended) A motion vector detection apparatus as defined in Claim 1 [any of Claims 1 to 7], wherein said motion vector detector is an integer precision motion vector detector that detects an integer precision motion vector from the data outputted from the first storage unit and the data outputted from the second storage unit.

9. (Amended) A motion vector detection apparatus as defined in Claim 1 [any of Claims 1 to 7], wherein said motion vector detector comprises:

an interpolation pixel generator for receiving the data outputted from the first storage unit, and generating decimal precision pixel data; and

a decimal precision motion vector detector for detecting a decimal precision motion vector from the data outputted from the interpolation pixel generator and the data outputted from the second storage unit.

10. (Amended) A motion vector detection apparatus as defined in Claim 1 [any of Claims 1 to 7], wherein said motion vector detector comprises:

an integer precision motion vector detector that detects an integer precision motion vector from the data outputted from the first storage unit and the data outputted from the second storage unit;

an interpolation pixel generator for receiving the data outputted from the first storage unit, and generating decimal precision pixel data; and

a decimal precision motion vector detector for detecting a decimal precision motion vector from the data outputted from the interpolation pixel generator and the data outputted from the second storage unit.

13. (Amended) A motion vector detection apparatus as defined in Claim 11 [or 12], wherein said interpolation pixel generator comprises:

a shift register unit comprising at least two shift registers; and

an interpolation unit performing interpolation using pixel data stored in the shift register unit.

14. (Amended) A motion vector detection apparatus as defined in Claim 11 [or 12], wherein said interpolation pixel generator comprises:

a shift register unit comprising, at least, (the number of pixels to be read out in a specific direction + 2) pieces of shift registers; and

an interpolation unit performing interpolation using pixel data stored in the shift register unit.

16. (Amended) A motion vector detection apparatus as defined in Claim 11 [any of Claims 11 to 15] further comprising an integer precision motion vector detector for detecting an integer precision motion vector from the data outputted from the first storage unit and the data outputted from the second storage unit.

22. (Amended) A motion vector detection apparatus as defined in Claim 20 [or 21] further comprising:

an interpolation pixel generator for receiving the data outputted from the first storage unit, and generating decimal precision pixel data; and

a decimal precision motion vector detector for detecting a decimal precision motion vector from the data outputted from the interpolation pixel generator and the data outputted from the second storage unit.

30. (Amended) A motion vector detection method as defined in Claim 23 [any of Claims 23 to 29], wherein said motion vector detection step is an integer precision motion vector detection step of detecting an integer precision motion vector by using the reference area data and the target block data.

31. (Amended) A motion vector detection method as defined in Claim 23 [any of Claims 23 to 29], wherein said motion vector detection step comprises:

an interpolation pixel generation step of receiving the pixel data constituting the reference area data, and generating decimal precision pixel data; and

a decimal precision motion vector detection step of detecting a decimal precision motion vector, using the data outputted from the interpolation pixel generation step, and the target block data.

32. (Amended) A motion vector detection method as defined in Claim 23 [any of Claims 23 to 29], wherein said motion vector detection step comprises:

an integer precision motion vector detection step of detecting an integer precision motion vector, using the reference area data and the target block data;

an interpolation pixel generation step of receiving the pixel data constituting the reference area data, and generating decimal precision pixel data; and

a decimal precision motion vector detection step of detecting a decimal precision motion vector, using the data outputted from the interpolation pixel generation step, and the target block data.

36. (Amended) A motion vector detection method as defined in Claim 33 [any of Claims 33 to 35] further comprising an integer

precision motion vector detection step of detecting an integer precision motion vector, using the reference area data and the target block data.

42. (Amended) A motion vector detection method as defined in Claim 40 [or 41] further comprising:

an interpolation pixel generation step of receiving the pixel data constituting the reference area data, and generating decimal precision pixel data; and

a decimal precision motion vector detection step of detecting a decimal precision motion vector, using the data outputted from the interpolation pixel generation step, and the target block data.